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A New Species of the Genus *Callionymus* (Teleostei: Callionymidae) from Papua New Guinea

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With 1 figure

Summary

Callionymus colini **n. sp.** is described on the basis of a male and five females from Port Moresby, Papua New Guinea. It is a member of the *Callionymus-japonicus* species-group; the closest allied species is *Callionymus scabriceps* in having a short caudal fin and a middle number of serrae on the dorsal margin of the preopercular spine; it is distinguished from that species in the male's shorter caudal fin, in possessing two bony tubercles in the occipital region, in having a convex ventral margin of the preopercular spine, and a different color pattern of the first dorsal fin in both sexes.

Zusammenfassung

Callionymus colini **n. sp.** wird aus Port Moresby, Papua-Neuguinea beschrieben. Sie ist ein Mitglied der *Callionymus-japonicus*-Artengruppe, und nah mit der Art *Callionymus scabriceps* verwandt, was sich in der kurzen Schwanzflosse und der mittleren Anzahl von Zähnchen auf dem Präoperkulardorn zeigt. Von *C. scabriceps* unterscheidet sich die neue Art durch die kürzere Schwanzflosse des Männchens, ihre Occipitalregion mit zwei Knochenhöckern, den konvexen ventralen Rand des Präoperkulardorns, und ein anderes Farbmuster der ersten Rückenflosse bei beiden Geschlechtern.

1. Introduction

The dragonets of the family Callionymidae are a group of benthic marine fishes. The two largest genera, *Callionymus* and *Synchiropus*, occur nearly circumtropical, mostly in warm and temperate seas. The Indo-Pacific species of the family Callionymidae were revised by Fricke (1983). A total of 126 species was recognized as valid for the region; 84 of these species belong to the genus *Callionymus*. The highest diversity of the Callionymidae is found in the tropical West Pacific (Fricke, 1983, 1988). One of the zones of high dragonet species diversity is the area around New Guinea. 29 species of dragonets live there according to Fricke (1988: 493). A new

species of *Synchiropus* described by FRICKE (1990) brings the total species number to 30.

After the publication of that paper, another new species from Port Moresby came to my attention. This new species belongs to the genus *Callionymus*; it is described in the present paper.

2. Methods, Material and Acknowledgments

Methods follow FRICKE (1983). The data of the paratype are given in parentheses if applicable, those of the holotype without parentheses.

Material: The type material of the new species is deposited in the fish collections of the Bernice P. Bishop Museum, Honolulu (*BPBM*), and the Staatliches Museum für Naturkunde in Stuttgart (*SMNS*).

Acknowledgments: I would like to thank Dr. PATRICK L. COLIN (Motupore Island Research Station, Papua New Guinea) for collecting and donating these and other dragonet specimens.

3. *Callionymus colini* new species (Fig. 1)

Material

6 specimens.

Holotype: SMNS 12260, male, 23.5 mm SL, Papua New Guinea, Port Moresby, Horseshoe (barrier) reef, 9°30'S 147°10'E, 80 feet depth (26 m), P. COLIN, 27 Apr. 1987.

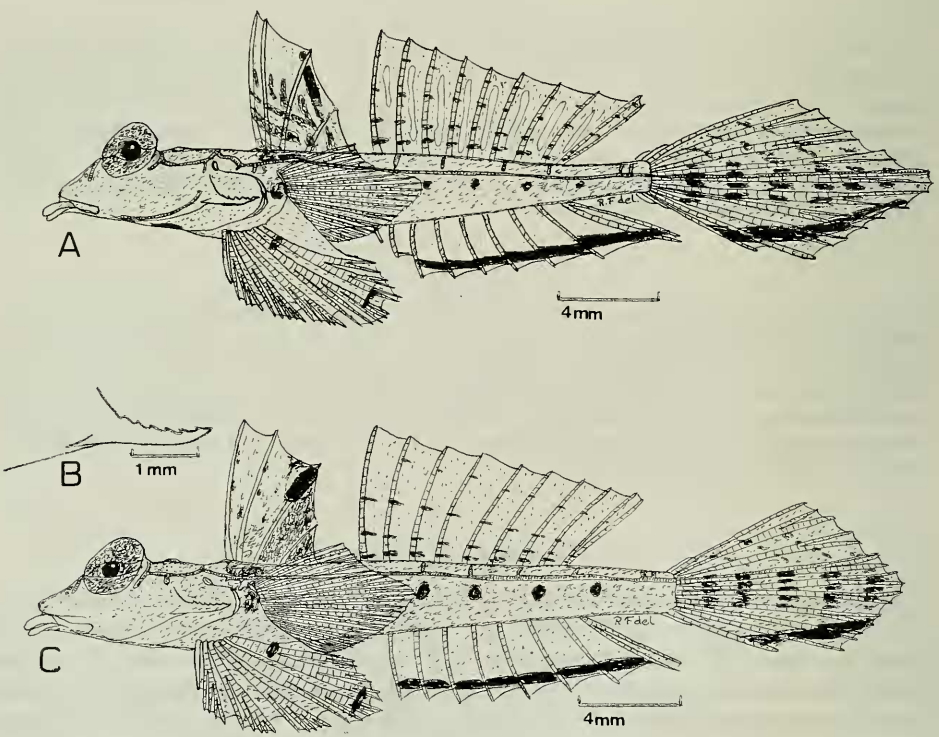

Fig. 1. *Callionymus colini* n. sp.; Port Moresby, Papua New Guinea, 26 m depth. – A–B. SMNS 12260, holotype, male, 23.5 mm SL. – A. Lateral view. – B. Left preopercular spine. – C. SMNS 12261, 1 female, 25.2 mm SL; lateral view.

Paratypes: BPBM 34754, 2 females, 11.5–22.3 mm SL, same locality and collector as the holotype, 26 Apr. 1987. – SMNS 12261, 1 female, 25.2 mm SL, same data as holotype. – SMNS 12263, 2 females, 12.9–23.8 mm SL, same locality and collector as the holotype, 26 Apr. 1987.

Etymology

The new species is named in honor of Dr. Patrick L. Colin, formerly Motupore Island Research Station, Port Moresby, who collected and donated the type material and other callionymids and tripterygiids from New Guinea.

Diagnosis

A *Callionymus* of the *C. japonicus*-group of the subgenus *Calliurichthys* with 9 rays in the second dorsal fin, 8 anal fin rays, 18–21 pectoral fin rays, 4–7 small antrorse serrae on the dorsal margin of the preopercular spine, preopercular spine with a convex ventral margin, and caudal fin in the male 2.1 in SL, in the female 2.8 in SL.

Description

D_1 IV; D_2 viii,1; A vii,1; P_1 i–ii, 14–17, ii (total 18–21); P_2 I,5; C (i–ii), i,7,ii, (i–ii).

Body elongate and depressed. Head slightly depressed, 3.8 (3.6–3.9) in SL. Eye 2.3 (2.1–2.3) in head. Preorbital length 3.1 (2.8–3.0) in head. Interorbital distance 19.5 (12.7–23.8) in head. Occipital region with two rough bony tubercles. Maxillary length 2.6 (2.4–2.9) in head. Preopercular spine length 2.7 (2.4–2.9) in head. Preopercular spine formula $1\ \underline{6-7}\ 1$ ($1\ \underline{4-7}\ 1$). Body depth 7.4 (6.7–7.9) in SL. Body width 5.5 (4.4–5.2) in SL. Urogenital papilla in the male holotype 10.9 in head, not visible or extremely small in the female paratypes. Caudal peduncle length 6.0 (6.6–7.2) in SL. Caudal peduncle depth 21.8 (14.8–21.6) in SL.

First dorsal fin slightly higher than second dorsal fin in the male holotype, without filaments, first spine 4.4 in SL, 2nd spine 4.5 in SL, 3rd spine 5.5 in SL, 4th spine 11.9 in SL; similar, but slightly lower in the female paratypes, 1st spine 4.4–5.3 in SL, 2nd spine 4.6–5.8 in SL, 3rd spine 5.3–7.5 in SL, 4th spine 8.7–11.9 in SL. Predorsal (1) length 2.9 (2.7–3.3) in SL. Second dorsal fin rays unbranched, the last divided at its base. First ray of second dorsal fin in the male holotype 4.7 in SL, last ray 5.6 in SL; 1st ray in the female paratypes 4.6–5.8 in SL, last ray 6.1–6.6 in SL. Predorsal (2) length 1.85 (1.87–1.88) in SL. Anal fin beginning on a vertical through 2nd ray of second dorsal fin. Anal fin rays unbranched, the last divided at its base. First anal fin ray in the male holotype 16.1 in SL, last ray 5.0 in SL; 1st ray in the female paratypes 9.1–11.3 in SL, last ray 5.7–6.6 in SL. Preanal fin length 1.77 (1.75–1.81) in SL. Pectoral fin reaching to 2nd anal fin ray when laid back. Pectoral fin length 4.3 (4.1–4.2) in SL. Prepectoral fin length 2.6 (2.4–2.9) in SL. Pelvic fin reaching to base of 1st anal fin membrane when laid back. Pelvic fin spine 10.5 (7.9–12.6) in SL; pelvic fin length 3.2 (3.0–3.3) in SL. Prepelvic fin length 3.5 (3.2–4.0) in SL. Caudal fin distally slightly elongate; caudal fin length in the male holotype 2.1 in SL, in the female paratypes 2.8–3.2 in SL.

Color in alcohol: Head and body light sandy yellow, belly whitish, eye dark gray. Back with a dark brown saddle below first dorsal fin, pectoral fin base with a dark brown blotch. Thorax in the male with a small, heart-shaped brown blotch, in the female plain white. Sides of body with a row of 4 dark brown blotches below the

lateral line. First dorsal fin in the male with dark gray lines in the basal half and a black spot and black line distally on the second and third membranes (Fig. 1A), in the female first and second membranes translucent, with brownish spots, third and fourth membranes dark gray; third spine distally with an elongate black blotch. Second dorsal fin rays with 4 dark brown spots each; each membrane in the male with a vertical white line. Anal fin with a distal blackish streak. Caudal fin with 5–6 vertical rays of dark brown blotches on the middle rays, with 4 oblique rows of dark spots on the upper rays, and with a black streak above the lower margin. Pectoral fin translucent. Pelvic fin whitish, with a basal and a distal blackish spot on the fifth ray.

Sexual dimorphism: Males have a longer caudal fin than females, a longer urogenital papilla, and a different color pattern of the first dorsal fin and the thorax.

Distribution

This species is known only from Port Moresby, Papua New Guinea. It was collected at a depth of 26 m.

Relationships

Callionymus colini n. sp. is characterized as a member of the *Callionymus-japonicus*-group by its second dorsal and anal fin ray formulae and the structure of the preopercular spine and the shape of the caudal fin. It is closely related to *Callionymus scabriceps* Fowler [Fowler, 1941: (4–6, fig. 2, Philippines; Fricke, 1983: 433–436, figs. 128–129 (Philippines, Burma)] in having a short caudal fin and a middle number of serrae on the dorsal margin of the preopercular spine; it differs from that species in the male's shorter caudal fin (1.6 in SL in *C. scabriceps*), in the different structure of the occipital region (not with a rough bony plate, but with two bony tubercles), the convex ventral margin of the preopercular spine (*C. scabriceps*: straight), and the color pattern of the first dorsal fin in males and females (*C. scabriceps*: all membranes basally and distally with large dark brown blotches in similar size, no black blotches).

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